REMARKS

Claims 1-58 are pending in the present application. In the Office Action dated January 12, 2007, the Examiner rejected all claims under 35 U.S.C. 102(b) as anticipated by D'Amico et al. (US 5,606,729). As demonstrated below, D'Amico fails to discuss or suggest any of the features of the claimed invention. Therefore, Applicant respectfully requests withdrawal of the present rejections and allowance of the claims.

The claimed invention is directed to an apparatus and method for measuring noise and interference at a base station in a mobile communications system by periodically silencing all mobile transmissions for a short interval, and measuring the received noise and interference at the base station during that interval. In a system where all mobile stations communicating with a base station are transmitting data frames that are time-aligned (i.e. synchronous), implementing a silent period in which all mobile stations temporarily cease transmitting is relatively simple: the mobile stations can simply be instructed to refrain from transmitting over the reverse link during a single common frame. However, implementing a silent period is more difficult in a system where mobile stations are asynchronously transmitting data frames. Hence, the present application describes a method for measuring noise at a base station comprising: defining for at least one carrier a periodic silence period that is independent of reverse link channel frame boundaries; transmitting to mobile stations a set of silence parameters that define the periodic silence period, so that the mobile stations can stop transmitting during that silent period; and measuring the noise at the base station. Variations of this method and apparatus for implementing these variations are claimed.

In stark contrast to the present invention, D'Amico is not directed to the problem of measuring background noise and interference at a base station. Rather, D'Amico describes a method for estimating signal quality in a mobile receiver. (Col. 1, lines 55-59.) Furthermore, although D'Amico's application describes the transmission of a "silent signal" during a "silence

slot" (see Abstract), the description makes amply clear that the so-called silent signal is transmitted by a base station, not a mobile, and is in fact not "silent" at all! For example, D'Amico states that "[t]he method further comprises *in the fixed portion of the radio communication system* the steps of transmitting a silent modulation signal . . ." (D'Amico, col. 2, lines 2-12, emphasis added.) Repeated references to "the fixed portion" of the system make abundantly clear that the "silent signal" is associated with the base station transmitter.

This and similar sentences indicate that D'Amico is not referring to radio silence, i.e. a cessation of transmission, since it makes no sense to "transmit" silence. In fact, outside the abstract, D'Amico never refers again to a "silent signal" but rather repeatedly discusses a "silent *modulation* signal." D'Amico's discussion of the slot structure (see col. 8 line 62 – col. 9 line 10 and Figs. 5 & 6) make clear that "silent modulation signal" refers to a pilot carrier with no modulation in a particular sideband for a particular interval. In other words, the pilot signal, i.e. a radio frequency carrier signal, is transmitted throughout the silent slot. (See col. 9, lines 11-19 & Fig. 5: Base station BS1 is transmitting a tone in slot SQM1 on the upper sideband at the same time that it is transmitting a "silent modulation signal" in slot SQM2 on the lower sideband.)

In short, D'Amico has virtually nothing in common with the claimed invention.

Claim 1 of the present invention reads as follows:

> A method of measuring noise at one or more base stations in a mobile communication system, comprising:
> defining a periodic silence period for at least one carrier that is independent of reverse link channel frame boundaries;
> transmitting silence parameters that define the periodic silence period to mobile stations communicating with the base stations, wherein the mobile stations stop transmitting during the periodic silence period; and
> measuring the noise at each base station during the periodic silence periods.

Claim 1 is a method of measuring noise at one or more base stations in a mobile communication system. D'Amico, as discussed above, describes a method for measuring received signal quality in mobile receivers.

Claim 1 comprises the step of "defining a periodic silent period for at least one carrier that is independent of reverse link channel frame boundaries." D'Amico makes no mention of periodicity at all. Further, as discussed above, D'Amico describes a "silent slot" that is in fact not silent at all, since the base station in D'Amico transmits a pilot signal during the so-called silent slot. Finally, while the silence period in the present invention is asynchronous, i.e. unrelated to frame boundaries, the silent slot in D'Amico is synchronous. (See col. 1 lines 63-65, ". . . a silence slot in one of a plurality of predetermined synchronized signal quality measurement (SQM) slots.")

Claim 1 comprises the step of "transmitting silence parameters that define the periodic silence period to mobile stations communicating with the base stations, wherein the mobile stations stop transmitting during the periodic silence period." Examiner's citations to D'Amico fail to point out any reference to "silence parameters that define the periodic silence period." In fact, D'Amico appears to be completely silent on this topic. Furthermore, D'Amico describes a base station transmitting a silent modulation signal during a silent slot, and fails to disclose mobile stations that stop transmitting during a periodic silence period.

Claim 1 comprises the step of "measuring noise at each base station during the periodic silence periods." Examiner's citations to D'Amico fail to point out any reference to measurements noise at base stations. In fact, D'Amico is silent on this topic.

In sum, D'Amico addresses a completely different problem than the present invention, describes a completely different system than the present application, and discloses none of the features of the claimed method. Accordingly, D'Amico does not anticipate the claimed invention, nor can it be combined with other references to make obvious any of the present claims. The rejection of claim 1 is improper and should be withdrawn.

Examiner correctly notes that independent claims 18, 35, and 42 correspond to claim 1. For the same reasons as given above, therefore, the rejections of those claims are also

improper, and should be withdrawn. The Examiner also rejected the only remaining independent claim, claim 53, but apparently did so on grounds that are unrelated to the actual content of the claim. (See Office Action, p. 4, first paragraph; cf. Claim 53.) Applicant submits that Claim 53 is allowable over the cited reference for substantially the same reasons as given above.

The remaining claims in the present application are dependent on the above-discussed independent claims. Accordingly, all are allowable over the cited reference.

In light of the above arguments, Applicant submits that Claims 1-58 are all allowable over the cited reference. Accordingly, Applicant respectfully requests withdrawal of all rejections and looks forward to the next communication. Should any issues remain, the undersigned attorney would welcome a telephone call from Examiner to discuss them.

Respectfully submitted,

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